

PATENT COOPERATION TREATY

REC'D 30 SEP 2004

From the
INTERNATIONAL SEARCHING AUTHORITY

~~WPO~~ PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2004/050831

International filing date (day/month/year)
03.06.2004

Priority date (day/month/year)
13.06.2003

International Patent Classification (IPC) or both national classification and IPC
H04N7/01, G06T3/40

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for International preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Beaudoin, O

Telephone No. +49 89 2399-2337



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/050831

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/B2004/050831

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	6,8
	No: Claims	1-5,7,9-16
Inventive step (IS)	Yes: Claims	6,8
	No: Claims	1-5,7,9-16
Industrial applicability (IA)	Yes: Claims	1-16
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

- 1 The following document is referred to in this communication:
D1 : ZHAO M ET AL: "TOWARDS AN OVERVIEW OF SPATIAL UP-
CONVERSION TECHNIQUES" PROCEEDINGS OF ISCE, XX, XX, 24
September 2002 (2002-09-24), pages 23-26

2 INDEPENDENT CLAIM 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Claim 1 is drafted in such general terms that its subject-matter falls within the disclosure of document D1.

Namely, Document D1 discloses an overview of spatial up-conversion techniques and an evaluation of their performances is presented: a comparison is established between an initial HD video signal and different HD interpolated video signals obtained by up-conversion of a SD video signal derived from the initial HD video signal.

In the DRC up-conversion method (see paragraph 2.A.), the coefficients for the data dependent interpolation filter are calculated thanks to a learning process employing both the initial HD video signal and the SD video signal as the training material. Hence, in this special case, the input signal of the DRC filter (the SD video signal) and the further input signal used to calculate filter coefficients (the initial HD video signal) are correlated.

3 INDEPENDENT CLAIMS 15 and 16

The subject-matter of independent claims 15 and 16 (method and computer program product derived from the spatial filter unit of claim 1) is for the same reasons not new.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IB2004/050831

4 DEPENDENT CLAIMS 2-5, 7, 9-14

Dependent claims 2-5, 7, 9-14 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

5 DEPENDENT CLAIMS 6, 8

The combination of the features of dependent claims 6, 8 are neither known from, nor rendered obvious by, the available prior art. The reasons are as follows:

In document D1, the input signal and the further input signal are either both luminance or chrominance signals.

According to the invention, the input signal representing a first quantity (chrominance) is converted using coefficients calculated on basis of a further input signal representing a second different quantity (luminance) which is advantageous because the input signal conversion can profit from the further input signal data (since the input signal and the further input signal are correlated and the further input signal may be, for example, more detailed).